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10/581,438	01/29/2007	Iain Norman Bridge	23376-001-US	8472
32137 7590 12/24/2009 PATENT DOCKET CLERK COWAN, LIEBOWITZ & LATMAN, P.C. 1133 AVENUE OF THE AMERICAS NEW YORK, NY 10036				
EXAMINER HERRING, BRENT W				
ART UNIT 3633		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/581,438

**Applicant(s)**

BRIDGE, IAIN NORMAN

**Examiner**

BRENT W. HERRING

**Art Unit**

3633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 and 22-46 is/are pending in the application.
- 4a) Of the above claim(s) 15, 37-40, 45 and 46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-19, 22-36 and 41-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Drafts/Person's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/29/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of claims 1-14, 16-19, 22-36 and 41-44 in the reply filed on 11/18/2009 is acknowledged.
2. Claims 15, 37-40 and 45-61 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Claims 20-21, and 47-61 have been cancelled by applicant.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 9/29/06 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Objections***

4. Claims 15, 37-40, and 45-46 are objected to because of the following informalities: the claims have the incorrect status identifiers preceding the language of the claim. The status identifiers to the claims should be amended to indicate that the claims have been withdrawn. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 7-9, 12-14, 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al., US 4,778,709.

Regarding claim 1:

'709 discloses a panel structure comprising two sheets which are spaced apart to provide a void between, and are tied together by a plurality of tie means (24) extending from one of the sheets to the other, the tie means being formed of substantially the same material as the sheets, and the sheets and the tie means forming an uninterrupted body of the material, the ties being arranged to leave unobstructed voids within the plane of the panel, and there being an elongate reinforcing member (6) located within at least one of the voids.

Regarding claim 2:

'709 discloses wherein the ties are arranged across the sheets in a geometric lattice (see Fig. 3).

Regarding claim 3:

'709 discloses wherein the void between the sheets contains a material different to the sheets (reinforcement pipe 6 is comprised of metal).

Regarding claim 4:

'709 discloses wherein the different material is an expanded material.

Regarding claim 5:

'709 discloses wherein the material of the sheets and tie means is a thermosetting or thermoplastic plastics material, polymer material (col. 2, Ins. 42-48), metal or board material.

Regarding claims 7 and 8:

'709 discloses wherein the sheets are generally planar.

Regarding claim 9:

'709 discloses wherein the tie means each consist of material of one or more sheets, deformed out of the plane of the corresponding sheet and fused to material of the other sheet.

Regarding claim 12:

'709 discloses wherein the material can be deformed by a process which includes the application of heat.

*Note that the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process.*

Regarding claim 13:

'709 discloses wherein the material can be deformed by a process which includes the application of pressure.

Regarding claim 14:

'709 discloses wherein the material is deformed to form hollow projections toward the opposite sheet (see Fig. 3).

Regarding claim 16:

'709 discloses wherein the projections are formed with pointed, rounded or flat peaks (see Fig. 4) capable of use for fusion with corresponding peaks formed from the other sheet.

Regarding claim 17:

'709 discloses wherein no more than one half of the area of the sheets is deformed to form tie means (see Fig. 3).

Regarding claim 18:

'709 discloses wherein the sheets are substantially planar between areas of deformation.

Regarding claim 19:

'709 discloses wherein the sheets are deformed only at points, being substantially undeformed therebetween (see Fig. 3).

7. Claims 1, 9-11, 22-24, 27, 28-30, 32-33, 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Saveker, US 3,992,835.

Regarding claim 1:

'835 discloses a panel structure comprising two sheets which are spaced apart to provide a void between, and are tied together by a plurality of tie means

(27, 28) extending from one of the sheets to the other, the tie means being formed of substantially the same material as the sheets, and the sheets and the tie means forming an uninterrupted body of the material, the ties being arranged to leave unobstructed voids within the plane of the panel, and there being an elongate reinforcing member (48) located within at least one of the voids.

Regarding claim 9:

'835 discloses wherein the tie means each consist of material of one or more sheets, deformed out of the plane of the corresponding sheet and fused to material of the other sheet (see Figs. 4 and 7).

Regarding claim 10:

'835 discloses wherein material of both sheets is deformed from the respective plane to be fused with material of the other sheet at a position between the sheets.

Regarding claim 11:

'835 discloses wherein the material of the sheets is fused midway between the sheets (see Fig. 3).

Regarding claim 22:

'835 discloses a panel, comprising: first and second generally planar sheets (22, 23) spaced apart from one another; the first sheet having a plurality of projections (27) extending toward the second sheet, the projections of the first sheet and the first sheet being formed of substantially the same material; the second sheet having a plurality of projections extending toward the first sheet,

the projections of the second sheet and the second sheet being formed of substantially the same material; each of the projections of the first sheet coupled to a corresponding one of the projections of the second sheet in a manner that forms an uninterrupted body between corresponding pairs of projections of the first and second sheets; the projections of the first and second sheets being arranged to provide a plurality of voids between the first and second sheets (see Fig. 3) at positions at which there are no projections; and an elongate reinforcing member (48) disposed within at least one of the voids.

Regarding claim 23:

'835 discloses wherein each of the projections of the first sheet meets the corresponding one of the projections of the second sheet along the same plane.

Regarding claim 24:

'835 discloses wherein each of the first and second sheets is formed of one of thermoset plastic material, thermoplastic material, polymer material, metal alloy and paper board.

Regarding claim 27:

'835 discloses comprising foam material (col. 7, Ins. 54) disposed within a plurality of the voids between the first and second sheets.

Regarding claim 28:

'835 discloses wherein the foam material disposed within the plurality of the voids is capable of providing at least one of thermal and sound insulation.

Regarding claim 29:

'835 discloses wherein the elongate reinforcing member is substantially rigid.

Regarding claim 30:

'835 discloses wherein the elongate reinforcing member is of sufficient size to bear against both the first and second sheets at positions of the first and second sheets at which there is no projection (see Fig. 3)

Regarding claim 32:

'835 discloses wherein the elongate reinforcing member is hollow and adapted to be used as a service duct.

Regarding claim 33:

'835 discloses wherein the elongate reinforcing member is straight and extends along an entire length of the first and second sheets.

Regarding claim 41:

'835 discloses wherein each of the projections of the first and second sheets is hollow.

8. Claims 22, 26, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Molin et al., US 3,534,463.

Regarding claim 22:

'463 discloses a panel, comprising: first and second generally planar sheets (see Figs. 7-9) spaced apart from one another; the first sheet having a plurality of projections (1b) extending toward the second sheet, the projections of

the first sheet and the first sheet being formed of substantially the same material; the second sheet having a plurality of projections extending toward the first sheet, the projections of the second sheet and the second sheet being formed of substantially the same material; each of the projections of the first sheet coupled to a corresponding one of the projections of the second sheet in a manner that forms an uninterrupted body between corresponding pairs of projections of the first and second sheets; the projections of the first and second sheets being arranged to provide a plurality of voids between the first and second sheets at positions at which there are no projections; and an elongate reinforcing member (g) disposed within at least one of the voids.

Regarding claim 26:

'463 discloses wherein each of the projections of the first and second sheets includes a flat peak so that each of the projections of the first sheet meets the corresponding one of the projections of the second sheet along the entire flat peaks of the projections (see Fig. 9).

Regarding claim 29:

'463 discloses wherein the elongate reinforcing member is substantially rigid.

Regarding claim 30:

'463 discloses wherein the elongate reinforcing member is of sufficient size to bear against both the first and second sheets at positions of the first and second sheets at which there is no projection.

Regarding claim 31:

'463 discloses wherein the elongate reinforcing member is disposed within one of the voids having a hexagonal shape (see Fig. 9), the elongate reinforcing member bearing against opposite sides of the hexagonal shape representing positions of the first and second sheets at which there is no projection.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saveker, US 3,992,835 in view of Williams, US 5,108,810.

Regarding claims 6 and 25:

'835 discloses claim 1, but does not expressly disclose wherein the material of the sheets incorporates reinforcing fibers.

'810 discloses incorporating reinforcing fibers in an open core structure comprising parallel facers.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to construct the facer material of '835 with reinforcement fibers as taught by '810. The motivation to use reinforcement fibers would have been to strengthen the structure against deformation.

Furthermore, note that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering design choice.

11. Claims 22, and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al., US 3,086,899 in view of Abe et al., US 4,778,709.

Regarding claim 22:

'899 discloses a panel, comprising: first and second generally planar sheets (see Fig. 5) spaced apart from one another; the first sheet having a plurality of projections (14, 15) extending toward the second sheet, the projections of the first sheet and the first sheet being formed of substantially the same material; the second sheet having a plurality of projections extending toward the first sheet, the projections of the second sheet and the second sheet being formed of substantially the same material; each of the projections of the first sheet coupled to a corresponding one of the projections of the second sheet in a manner that forms an uninterrupted body between corresponding pairs of projections of the first and second sheets; the projections of the first and second sheets being arranged to provide a plurality of voids between the first and second sheets at positions at which there are no projections.

'899 does not expressly disclose an elongate reinforcing member disposed within at least one of the voids.

'709 discloses placing an elongate reinforcing member disposed within at least one of the voids.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to insert a reinforcing member within at least one of the voids of '899 as taught by '709.

The motivation to combine would have been to provide greater structure rigidity to prevent collapse of the voids of '899.

Regarding claim 41:

'899 discloses wherein each of the projections of the first and second sheets is hollow.

Regarding claim 42:

'899 discloses wherein a surface of the first sheet not facing the second sheet reveals visible concavities at positions at which there exist projections, and a surface of the second sheet not facing the first sheet reveals visible concavities towards the first sheet at which there exist projections.

Regarding claim 43:

'899 discloses wherein each of the projections of the first and second sheets is arranged at an interstice of a square lattice, and a size of the square lattice is sufficiently wide to provide unobstructed straight voids in which to receive elongate reinforcing members.

Regarding claim 44:

'899 discloses wherein an area of each of the first and second sheets disposed between the visible concavities is substantially greater than one half a total area of the respective one of the first and second sheets.

Should applicant dispute '899 disclosing the limitation of claim 44, note that those of ordinary skill in the art would appreciate that a modification such as a mere change in size of a component would be obvious. A change in size is generally recognized as being within the level of ordinary skill in the art.

Furthermore, '709 discloses wherein an area of each of the first and second sheets disposed between the visible concavities is substantially greater than one half a total area of the respective one of the first and second sheets.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide for wherein an area of each of the first and second sheets disposed between the visible concavities is substantially greater than one half a total area of the respective one of the first and second sheets.

The motivation to increase the area of the first and second sheets disposed between the visible concavities would have been to increase the size of the voids between the sheets and projections.

12. Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saveker ('835) in view of Kondo, US 6,076,315.

Regarding claim 34:

'835 discloses claim 22, comprising a plurality of elongate reinforcing members disposed within the voids, but does not expressly disclose wherein a first of the members is coupled to a second of the members to form a joint.

'315 discloses wherein elongate conduit members (5) are disposed with voids between paneling wherein the elongate members are coupled to form a joint (see Fig. 1).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to configure the elongate reinforcing conduit members of '835 to be coupled at a joint.

The motivation to couple would have been to provide a continuous conduit in the void of the panel of '835.

Regarding claim 35:

'315 discloses wherein first and second members extend perpendicular to one another (see Fig. 1).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide members of '835 running perpendicular to one another as taught by '315.

The motivation to provide perpendicular members would have been to run and supply the conduit to various sides of the panel as required for providing utility service.

Regarding claim 36:

'315 discloses wherein the elongate member is bent (see Fig. 1).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide a bend to the members of '835 as taught by '315.

The motivation to provide bend to the members would be to reroute the conduit within the panel.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT W. HERRING whose telephone number is (571)270-3661. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Dunn can be reached on (571)272-6670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/B. W. H./  
Examiner, Art Unit 3633

/Robert J Canfield/

for D. Dunn, SPE of Art Unit 3633